



SFC - BYTES

NEWS LETTER



DEPARTMENT OF COMPUTER SCIENCE
ST. FRANCIS COLLEGE FOR WOMEN, HYD-16

FROM THE PRINCIPAL- DR. SR. CHRISTINE FERNANDES

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Dr. Sr. Sujatha Yeruva

IT Admin,

PG Coordinator



It is a pleasant surprise to know that the Department of Computer Science has planned to bring out an e-newsletter.

Our college has always been abreast with the signs of time. Hence IT education has been an integral part of education of all the faculty in the college. In this context the department of computer science caters to a large number of students of all the faculty.

Hence many of the students will surely be interested in contributing their creative and innovative inputs to the e-newsletter. I wish and pray that our students will make use of the opportunity and will use this forum to explore their potentialities.

My heartiest congratulations to the HOD, Computer Science, Ms. Padmashree, Dr. Sr. Sujatha Yeruva, the M.Sc. Computer Science coordinator and all the staff of the department for launching this e-newsletter. Wish each one of you the very best and God's abundant blessings.

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Vision: Inspired by the visionary dynamism of St. Bartholomea, the Foundress of the Sisters of Charity, St. Francis College has its vision "Holistic Education for the Empowerment of Women"

Mission

Therefore we strive to help students develop into

- Intellectually Competent
- Morally Upright
- Socially Committed
- Emotionally Stable
- Spiritually Inspired
- Patriotic Women citizens of India

What is SFC-Bytes?

SFC-Bytes is the Computer Science department's bi-annual e-newsletter available for all to read on our college's official website www.sfc.ac.in. We are thrilled to announce the launching of the newsletter by our beloved Dr.Sr.Christine Fernandes, during the prestigious event of the international conference "STEM" on November 11th 2017.

Who are we?

"We" are the Computer Science department, a 25-membered enthusiastic team of unique individuals, whose inherent differences and backgrounds make for a fascinating editorial team which we hope reflects in our newsletter.

Why call it SFC-Bytes?

A "Byte" in Computer Science is one of the primary units of measurement, essential to the very construction of any computer hardware or software. And with this e-newsletter, we hope to do the same. With contributions from "SFC" itself, we wish for the newsletter to become an integral piece of the college's social fabric and making in the years to come.

Who writes the articles?

Every "Francisian", be it staff or student, can contribute to SFC-Bytes. Undergrad-Postgrad, Extroverts-Introverts, Teaching staff-Non-Teaching staff, First year students-Final year students... we make no discrimination. **Think, write and contribute to SFC-Bytes at csc@sfc.ac.in.**

Help us make it a grand success!

NIRUPAMA MA'AM - ONCE OUR GUIDE, NOW OUR GUIDING ANGEL

Our department's very first contribution will be about the first member of the department, Late Mrs. Nirupama Narasimhan—a tribute of fond remembrances.

Nirupama in Sanskrit means "Matchless". Ma'am, this is very true about you and absolutely no one can dispute this in our college. You have been the mastermind for the advent of every computer course in our college. Your simple living high thinking will be the essence of our learning from observing you and your immaculate work. You were a person with many great virtues with knowledge, talent, performance, availability being the professional bench marks you set that we thrive to attain. Professional perfection and independence were your strengths and we seek your blessing to be true to our profession and ourselves always. Your students always looked up onto you with awestruck expression for your wealth of up to date knowledge and the dynamic uplift that you constantly provided to their morale through your encouraging words and healthy academic challenges. The department wished to express our gratitude to you by honoring your valuable service by instituting a gold medal for the best performer in B.Sc. Software Engineering (Honors). The gold medal was instituted, only it was in your memory. We shall miss you will be an underrated statement.



Ms. Padmashree
Head, Dept. of CSc.

*"Good teaching
is more a giving
of the right
questions than
a giving of the
right answers" -
J. Albers*



Late Mrs. Nirupama Narasimhan

I was an MPC student of SFC in the year 1989, when the first batch of MPSC was introduced by Mrs.Nirupama N. We had a computer application course run by Mrs. Nirupama that was highly practically oriented, innovative & rich in content. She has a vast & thorough knowledge of computer applications and i regret losing out on an excellent opportunity by not joining the lucrative MPSC course at that time.

Ms Rekha Jaichander
Dept of Mathematics

SMART ANALYTICS AND IOT

Smart Analytics provides the right information at the right time to enable managers to make informed business decisions. The number of devices connected to the internet of things collecting huge data which in exponentially increasing leads to big data. The management of big data collecting from expanding network give rise to non-trivial analysis for data collection efficiency, data processing, analytics for decision making. To address these concerns researchers have collected data through IoT Devices for large number of studies on big data as smart analytics. As sensors spread across every industry in the world and connected to the internet of things which is going to trigger a massive influx of big data. In this paper we delve into where IoT will have the biggest impact for future of big data analytics and How Real world applications like Smart Home, Smart Cities, IoT in Agriculture, Smart Marking, IoT in Healthcare are influenced with IoT Devices. Smart Home has become the revolutionary ladder of success in the residential spaces and it is predicted Smart homes will become as common as smartphones. Smart city is another powerful application of IoT generating curiosity among world's population. Smart surveillance, automated transportation, smarter energy management systems, water distribution, urban security and environmental monitoring all are examples of internet of things applications for smart cities. In agriculture Farmers are using meaningful insights from the data to yield better return on investment. Sensing for soil moisture and nutrients, controlling water usage for plant growth and determining custom fertilizer are some simple uses of IoT. The concept of connected healthcare system and smart medical devices bears enormous potential not just for companies, but also for the well-being of people in general.

- Resource Person, International Conference— STEM, 11th Nov 2017

FROM THE DEAN OF ACADEMICS

I can now hardly remember the time we lived without internet! This speaks volumes of our dependence on it and e data. I belong to the generation which was not born with it. We had to acquire and adapt ourselves into it. Today the youth have no choice but to go with it but in our time we made a choice.

To take pride in saying am not at it is like missing the bus. I remember the days when I was doing research, the use of computers and internet was rare and we spent long hours writing down so much of data. we wrote a number of things we never needed. It was time consuming. We could not erase it we had to make a new draft if we did not like something we wrote. But today the scenario is so different. I am so glad I made the choice and effort to learn it. It has helped me save so much time. I can retrieve the information almost instantly whenever I want. It helps me make presentations so much more effectively with the audio and visual aids it provides. It is very economic too. It helps avoid duplication of effort

I have found it so useful in my profession too. Whether as teacher while teaching a topic in class or as an administrator I cannot ignore its importance.



Prof P Suresh Varma
Professor of CSE and
Dean IT
University College of En-
gineering,
Adikavi Nannaya Univer-
sity



Dr. Uma Joseph

I congratulate the Computer Science department for not only equipping themselves with the latest developments in this field but taking the entire college along. It has not been an easy task for them. Change is always difficult to accept! But their relentless efforts and perseverance has today seen our college library automated, the admission and examination process too followed. It has even made the entire system cashless and reduced paper work. I commend them for all the initiatives in this direction.

As the Dean of Academics I can get every information about the student in question at the click of a button. No more asking for registers or verification of any other physical records. This is a revolution and it has happened like in the twinkling of an eye!

Even as we enjoy the benefits of it, we are grateful to the College Management and the Computer Science department which spearheaded this movement. Wishing you the very best in all your endeavors!

3D PRINTING

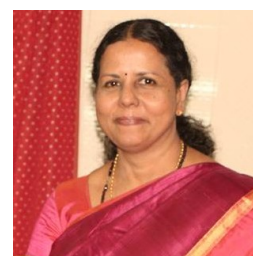
3D printing also known as additive manufacturing allows to fabricate 3D solid objects from a digital file. First 3D printer was modeled based on a technique called Stereolithography invented by Charles Hull in 1984. For fabricating 3D output Stereolithographic printers are the most accurate with minimum layer thickness of 0.06mm. An additive process is used to create a 3D printed object in which an object is created by laying down successive great many very thin layers of material until the entire object is created. Applications of 3D printing include architectural scale models & maquettes, rapid prototyping & manufacturing, entertainment (e.g. film props), healthcare (3D printed prosthetics and printing with human tissue), replicating ancient artifacts in archaeology, reconstructing fossils in paleontology, reconstructing heavily damaged evidence acquired from crime scene investigations in forensic pathology. Affordable costs of fast 3D printers save companies in prototyping process. In revenue, the worldwide 3D printing industry is expected to grow from \$3.07B in 2013 to \$12.8B by 2018, and further exceed \$21B in worldwide revenue by 2020. As 3D printing evolves, this technology is destined to transform almost every major industry and change the way we live, work, and play in the future.

FROM HEAD DEPT OF CHEMISTRY

Congratulations to The Head, PG coordinator and all the members of the Computer Science Department on the new venture of publishing a biannual newsletter named 'SFC Bytes'. I'm sure that the activities of the department and the view of students that are going to be published in this, will bring awareness about recent and ever changing developments in the field of Computer Science which greatly helps in the advancement of technology, among the student community. I have every confidence that you will succeed in this endeavor as facts of science are always fascinating. I would like to specially mention the immense contribution of our beloved late Mrs. Nirupama Narasimhan to the department and to all of us in general. I extend my best wishes for this great venture.



Dr Sr Sujatha Yeruva
IT Admin,
PG Coordinator



Dr Alina Jyothi
Head,
Department of Chemistry

TRAVERSING THE INFORMATION SUPERHIGHWAY

"Once a new technology rolls over you, if you're not part of the steamroller, you're part of the road."- Stewart Brand

This statement was so true for a digital immigrant like me, who created my first email id only in 2002 and acquired a PC in 2005 almost a decade after internet services were introduced in India. Today however I wonder how we ever survived without the internet and I would definitely feel extremely deprived without some kind of gadget/device to access the Net for a myriad different purposes. This article is an attempt to pay tribute to a very important part of our lives that we often take for granted and think about only when it stops functioning – the internet!

At the start of my career, belonging to the Department of Commerce, I really did not have any reason to keep abreast of the rapid changes in the IT industry except of course to quote a few examples in a strategy or marketing classroom. Getting introduced to Facebook in 2007 changed all of that....apart from connecting to long lost classmates, friends and relatives the various other pages (career, subject, interest and fun related), available for me to read and interact with, opened up new vistas in terms of knowledge development and management. I understood the power of the internet when the official college Facebook page was launched – the immediacy of response, the access to thousands of students and alumnae instantly and the documentation of events held at college with pictures was definitely an advantage to us.

The turning point to an understanding of how the internet and e-resources could be used to making classroom sessions more interesting happened when I was reading an article online about classical conditioning and a link directed me to an episode of the *Big Bang theory* where Sheldon conditions Penny into obeying his commands. The next day after incorporating that clip in my lecture, I was amazed at the transformation that happened in a slightly detached, often distracted class. The students were so animated and enthusiastically participated in the ensuing discussion on conditioned behavior in organizations.

I understood then that a generation of students, who had grown up in an increasingly audio visual world of instant gratification, would no longer be satisfied with a plain lecture. A teacher who seeks active student participation will necessarily have to find ways of keeping students engaged and attentive. While the text and reference books form the basis for our preparation, new age techniques, resources and methodologies freely available on the internet can be definitely incorporated in our classrooms.

I remember our senior faculty members in the department who would tell us tales of how they would painstakingly write out their entire thesis/research articles by hand, type it on the typewriter and protect the file/papers with their life. Today with email and cloud, access to 'saved' research is so convenient. Resources like the UGC's digital library, INFLIBNET; Google Scholar etc, not only help us find published articles for review, but also regularly alert us to new and current research in our area of interest. Online survey tools also help us find respondents from far and wide, thus making our sample more representative of the universe and results more reliable.



Deepa James
Asst. Professor
Dept of Commerce

*"They know enough
who know how to
learn" - J. Adams*

As teachers, one of the hardest tasks that we perform is the marking of attendance and maintenance of registers, followed by the dreaded calculation of shortage..... thanks to the online marking of attendance and entry of marks, life has definitely become easier and with instant feedback from students any inadvertent errors are rectified.

So whether it is guiding student projects, peer mentoring, sharing useful information or communicating with others to name a few more benefits, the information superhighway is definitely taking us places.

On a personal front, reaching out to people at dispersed geographical locations without stepping out from home, buying things online at any part of the day or night and the best part - downloading books on my Kindle are boons that I am definitely grateful for.

Celebrated author, Arthur C Clarke once famously quoted that, "Any sufficiently advanced technology is indistinguishable from magic."

It is my hope that this 'magic' will always be used for the good and progress of humanity!

SECURITY – BARRIER FOR CLOUD ADOPTION

Cloud computing, thriving technology has been evolved in recent years setting the trend to access anything anywhere. Metaphor for Internet, Cloud enables ubiquitous access to software, storage, infrastructure and deploy the environment based on pay-per-usage model. The original intention of proposed cloud computing is to provide users with inexpensive computing and storage services and ease the task without a need to worry about the technical implementations and nittygitties of physical infrastructure, deployment of software and upfront investment. General public have been using the cloud computing without the awareness of the term in the form of internet services, for example hotmail, facebook, youtube and gmail. Hotmail is probably the first cloud computing application which allowed the general public to keep their data in the form of text and image files at remote servers provided and managed by others.

As with any technology, pros and cons exist for cloud computing too. Even though cloud computing makes everything flexible and easier, there is added phase concerning the security of data along with other challenges like privileged user access, regulatory compliance, hypervisor issues, malicious insiders, account, service or traffic hijacking, long-term viability and business continuity as users work with the applications and data that are often located off-premise leading to no control.

Thus when paradigm shift to cloud occurs, many questions arise about security of data, its location and relocation, data segregation, data access, data loss or leakage, data scavenging, Data combination and commingling. Traditional approaches of security does not compliance with cloud computing. A key problem with data encryption is key management and this technology is still in nascent stage. Thus as security is the main issue to be addressed and dealing with single cloud is becoming less popular due to potential problems such as service availability, failure and possibility of malicious insiders in the single cloud , there is a radical shift towards multi-clouds or cloud-of-clouds recently which is one of major research area to further explore.



*Ms Kalpana
Asst. Professor
Dept of Computer
Science*

Few years ago, no one must have thought of technology making our lives as comfortable as it is now. We always think its money that gives us comfort and value, but due to digitalization personally our lives have become so comfortable, and professionally it reduced lot of paper work. Due to internet, these days our work gets done as quickly as possible in a transparent and centralized manner. The beauty of this technology is that it has opened up many doors for income generation in a short time. The dependency on technological devices like mobile phone, computers and internet is growing like anything every year in households and companies, which is a positive sign of growth of nation. Earlier TV was the main source of entertainment, but now slowly it's getting replaced by internet.

Internet and E-data has simplified and improved the Communication process in companies and college and increased employment opportunities to many across the globe. The specialty of this technology is that it secures the data without much of space consumption for years. As everything has pros and cons, even Internet has few drawbacks, but it depends from person to person who's using it, and how he using it. So, self realization among people is important, that technology has to be used for betterment of mankind rather than for destruction.

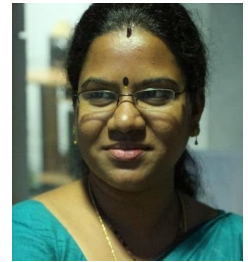
SMART HOME

When you're not home, nagging little doubts can start to crowd your mind like:

- Did I turn the lights, fans off?
- Did I set the security alarm?
- Are the kids doing their homework or watching television?

With a smart home, we could quiet all of these worries with a quick glance at your smartphone or tablet. We could connect the devices and appliances in your home so that we can communicate with each other.

Any device in home that uses electricity can be put on home network and at our command. Whether we give that command by voice, remote control, tablet or smartphone, the home reacts. Most applications relate to light, home security, home theatre and entertainment. These ultra-portable computers are everywhere, and their constant Internet connections means they can be configured to control myriad other online devices. It's all about the Internet of Things, that refers to the objects and products that are interconnected and identifiable through digital networks. This web-like sprawl of products is getting bigger and better every day. All of the electronics in your home are fair game for this tech revolution, from your fridge to your furnace. A company in Scotland developed **X10**, which allows compatible products to talk to each other over the already existing electrical wires of a home.



*Dr. Anitha Kaluvoya
HoD,
Mass Communication*



*Ms Navya
Asst. Professor
Dept of Computer
Science*

All the appliances and devices are receivers, and the means of controlling the system, such as remote controls or keypads, are transmitters. If you want to turn off a lamp in another room, the transmitter will issue a message in numerical code that includes the following:

- An alert to the system that it's issuing a command,
- An identifying unit number for the device that should receive the command and
- A code that contains actual command, such as "turn off"

Some examples of smart home products and their functions:

- **Cameras** will track your home's exterior even if it's pitch-black outside
- **Door locks and garage doors** can open automatically as your smartphone approaches.

Auto alerts from your security system will immediately go to your smartphone, so you instantly know if there's a problem at home. Smart phones makes life easier and more convenient.

IOT - INTERNET OF THINGS

IoT consists of all the web-enabled devices that collect, send and act on data they acquire from their surrounding environments using embedded sensors, processors and communication hardware. These devices, often called "connected" or "smart" devices, can sometimes talk to other related devices, a process called machine-to-machine (M2M) communication, and act on the information they get from one another. Humans can interact with the gadgets to set them up, give them instructions or access the data, but the devices do most of the work on their own without human intervention. Their existence has been made possible by all the tiny mobile components that are available these days, as well as the always- online nature of our home and business networks.

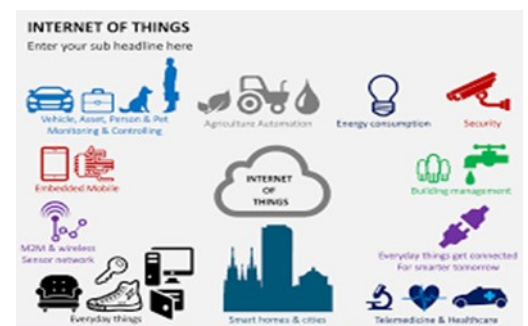
Applications of IoT:

- Building and Home automation
- Manufacturing
- Medical and Healthcare
- Education systems
- Media , Environmental monitoring
- Infrastructure Management
- Energy management, Transportation & Better quality of life

You will play role of an End User, Developer & an Impacted. In-spite of the small fears and pitfalls the future would be taken up by the major IoT technology that would be part of every one life. The future student should be taught and learn these technologies and provide a bright future.



Ms Jyothi &
Shobana
Asst. Professor
Dept of Computer
Science



APPRECIATION OF INTERNET AND E DATA FOR PROFESSIONAL AND PERSONAL REQUIREMENTS

The internet is a worldwide publicly accessible network of networks. Through Interconnected computer networks it enables individuals and businesses share information, resources and services. It has revolutionised communication channels, conduct of business and ways of entertainment. It has grown so much in importance that it is now difficult to imagine a world without internet. It has gained importance in personal and professional life of individuals as it has enabled and accelerated new forms of interactions ranging from instant messaging to social networking. Affordable cost, availability of large volumes of information and relatively high speed of access have made it extremely popular. Understanding and use of internet technology has conferred several benefits on individuals and companies. Individuals have access to wide ranging services in the areas of personal banking and investment, hospitality, education, tourism, healthcare, Tax planning and other essential services. Internet is extremely useful in education as it has opened up and expanded resources available in a class room. In the field of academic research, internet has opened up new vistas of knowledge and is able to provide access to cutting edge research worldwide at the click of a button. The availability of a huge repository of Electronic data (E data) has encouraged and facilitated analysis and enquiry by researchers in several areas.

Internet technology has enabled companies gain larger markets and create services that customers need. Customer support and services have reached new heights due to internet technology. The availability of online surveys and data management have helped businesses reach out to new customers across the world. The availability of data in electronic form has helped organisations in making sound business decisions with speed and precision. It has helped companies optimise operations, guide investment decisions, focus on innovation in marketing and developing new products and services. E data has enabled finance companies in credit evaluation, investment guidance and quantification of lending risks. In the case of health care companies it has enabled patient care at reasonable price by making available data on hospitals, medical teams, medicines and patient outcomes. E data has served the interests of consumer retailers as well as transport and logistics companies as they are able to target their marketing effort by choosing new business locations and customers. Large volumes of data maintained by the Government stands testimony to economic value creation and social benefit. According to Bill Gates, Founder, Microsoft Corporation "Information technology and business are becoming inextricably interwoven. I don't think anybody can talk meaningfully about one without talking about the other." Internet today has moved from personal computers to mobile phones on the path towards what has been called the Internet of Things in which everyday objects will become capable of receiving generating and sending information. The internet has opened up the world of opportunities for people and has become crucial and indispensable for prosperity of the world community.



Dr. Savitha Sukumar

Assistant Professor
Dept of Commerce

***"Good teaching
is more a giving
of the right
questions than
a giving of the
right answers" -
J. Albers***

AUGMENTED REALITY

Imagine yourself sitting on a bus stop and what you see happening next to you... a prowling tiger, a meteor crashing, and an alien tentacle grabbing people off the street. Unbelievable?

Have a look at the link: <https://youtu.be/Go9rf9GmYpM>

The above was a prank by PepsiCo recently for commuting Londoners with an **AR-enabled** bus stop display.

AR...what is AR??

AR or Augmented Reality is a technology that's truly surfacing up these days. It augments sound, video, graphics and other sensor based inputs (even smell) on real world objects.

Video games and cell phones are driving the development of augmented reality

3 main categories of Augmented Reality tools:

Augmented Reality 3D viewers, allow users to place life-size 3D models in your surrounding environment with or without the use of trackers. Trackers are simple images or frames that 3D models can be attached to in Augmented Reality.

Augmented Reality browsers enrich your camera and visual display with contextual information. For example, you can point your smartphone at a building to display its history or estimated value.

The last way that AR is generally experienced is through **gaming**, creating immersive gaming experiences that utilize your actual surroundings.

The future of augmented reality is clearly bright but it still has some challenges to overcome. For example, GPS is only accurate to within 30 feet(9 meters) and does not work as well indoors, although improved image recognition technology may be able to help.

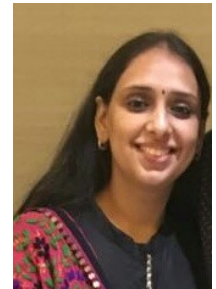
People may not want to rely on their smartphones, which have small screens on which to superimpose information. For that reason, wearable devices like SixthSense or augmented-reality capable contact lenses, glasses and headsets will provide users with more convenient, expansive views of the world around them. Screen real estate will no longer be an issue. You may be able to play a real-time strategy game on your computer, or you can invite a friend over, put on your AR glasses or headset, and play on the tabletop in front of you.

Apart from technological limitations, other major issues will be privacy, social acceptance and a profitable for businesses.

There are challenges and hurdles but despite all of this, AR is truly going to be the technology of future and is speedily making its way in our digital lives.

KNOW OUR ABBREVIATION OF COMPUTER SCIENCE

Computer Science department is a Cloud with Operating System having Memory with Programs accessing by URL Unicode and active Troubleshooting Transactions and Encoding them using Random Access Memory and Server storage using Cyber security via Internet and Email by Network through Central Processing Unit by Encryption.



Ms Prabhmeet
Asst. Professor
Dept of Computer
Science



Ms Jyothi
Asst. Professor
Dept of CS

VIRTUAL REALITY

Virtual Reality (VR) is an illusion that tricks your mind and takes you to a different world by engaging your senses sight and sound sometimes smell and touch. There is another type of reality as well that is augmented reality AR, which actually combines your illusionary world or objects with the real world or environment like the Hololens from Microsoft. Hololens allows an individual to experience things and work in remote locations like military camps, construction sites etc., without travelling to these locations.

To understand how it works you need to understand first how your senses work or how it perceives objects in reality. For example, try to play a video on your mobile phone observe the running video. Now take your device closer to your eyes then shut left eye and ear observe the difference in the view and sound, repeat the same thing with the right eye. When you see with both eyes our mind actually combines these views and presents it as a single view. Now VR actually uses this functionality of your brain and makes us feel that we are a part of the video by using other senses like we are walking around and we can touch things.

To experience this you need a headset, available in the market as VRBOX, Samsung Gear, etc. If you observe it carefully the gap between the lenses actually separates our view and allows the mind to perceive the way it should be. It blocks our complete view of surrounding environment and focuses on what is playing on the device. The motion sensors capture head and body movements and process it with the video or game that is playing on your device. Most of the headsets available in the market are compatible to be used with the smartphones.

Virtual Reality also helps in treatment to distract patients and reduce their pain. It encourages people to stay fit by using gamification concept. It is widely used for VFX effects in movies.

Get a VR device to enter this illusionary world!

FROM HEAD DEPT OF PHYSICS

Edata is just a step ahead of what we usually follow in academics. Easily and more effectively accessible, digitised data does not only make availability and analysis of data open for all, but it also constructs an archive which can be utilised across the disciplines. In our particular area of study, the observations and findings of a research, available in the digitised format makes future research easier globally. Since, the archive does not bear any physical or geographic barrier, any researcher can utilize the data to take the next step. And moreover, researchers and academicians can network across the globe for a wider progress of Physical Sciences.

Nirupama ma'am is a role model for many of us. I admire her passion towards work and determination. We truly miss her.



*Ms Afeefa
Asst. Professor
Dept of Computer
Science*



*Ms Usha Praveena
Head,
Department of Physics*

TECHNOLOGY FURIOUS FUTURE

Having the latest technologies running over every smart device around, we must have got familiar with most of them. But what's caught the eye lately is the current running magic over the globe of what comes to be handy for the generations coming next.

While the world connects from one end to another at just some minor clicks, it's time to refocus on what's going to bring the world of gadgets dependent humans to the much advanced technology in the long run brought next.

Here mentioned below are just a few jaw dropping technologies:

- What would most of the truck drives do in the near future if we had self driving trucks without the driver? Yes, that's what the next and latest technology tells us.
- Having seen one exciting journey of people with their craze for the Pokemon GO, we now have the very trending AR and VR (Augmented Reality and virtual Reality) where now we have various applications being build to acknowledge the new technology.
- Remarkable progress seen at the scientific end where the scientist reverse the paralysis of a human. Now that would mean the brain being used to restore the freedom of the injury on the spinal cord.

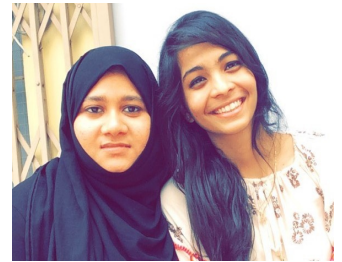
If these few technologies have you curious for what's holding up next, then your exploration does not stop right here. As this article simply holds a very little of the lot

PERVASIVE COMPUTING

Pervasive computing (Ubiquitous computing or ubicomp) is a concept in [software engineering](#) and [computer science](#) where computing is made to appear anytime and everywhere. A trend being brought about by a convergence of advanced electronic – and particularly, wireless - technologies and the Internet. Pervasive computing devices are not personal computers but very tiny - even invisible - devices, either mobile or embedded in almost any type of object imaginable, including cars, tools, appliances, clothing and various consumer goods – all communicating through increasingly interconnected networks. In the future these smart devices will maintain current information about their locations, the contexts in which they are being used, and relevant data about the users. Among the emerging technologies expected to prevail in the pervasive computing environment of the future are wearable computers, smart homes and smart buildings. Among the myriad of tools expected to support these are: application-specific integrated circuitry (ASIC); speech recognition; gesture recognition; system on a chip (SoC); perceptive interfaces; smart matter; flexible transistors; reconfigurable processors; field programmable logic gates (FPLG); and micro electromechanical systems (MEMS).

Examples of ubicomp:

A domestic ubiquitous computing environment might interconnect lighting and environmental controls with personal biometric monitors woven into clothing so that illuminating and heating conditions in a room might be modulated, continuously and imperceptibly. Posits refrigerators “aware” if their suitably-tagged contents, able to both plan a variety of menus from the food actually on shelf and what is the spoiled food etc.



*Ms Monica &
Mushafia
MSc CSc*



*Ms Rajeswari
Asst. Professor
Dept of CSc*

Conclusion:

Pervasive computing which is otherwise ubiquitous computing is about making our lives simpler through digital environments that are sensitive, adaptive, and responsive to human needs.

References:

http://en.wikipedia.org/wiki/pervasive_computing.

http://Internetofthingsagenda.techtarget.com/.../pervasive_computing.

<https://www.igi-global.com/chapter/pervasive-computing-applications>.

MOBILE APPS

Most phone users today either own a smart phone or have used one sometime. In contrast to the first generation mobile phones, smart phones come with

- a mobile operating system, most popular being Google's Android and Apple's iOS and
- an integrated mobile broadband cellular network connection trending in the market as 4G, 3G, Edge. Some of the popular providers in India are BSNL, Airtel, Idea, Reliance Jio and Vodafone.

Smart phones are just one example of smart devices. Smart devices are electronic devices with the capability of being network connected to other devices using technologies of Bluetooth, Wi-Fi, NFC, 4G, 3G etc. Some of the other notable smart devices are tablets, phablets (phone and tablet) and smart watches.

Smart devices support a variety of apps. Apps are third party software components that can be downloaded from Google Play Store and Apple Store.

In today's era apps have become an integral part of our daily lives. The market is crowded with almost countless apps, some free and some that need to be purchased.

Some prominent app categories are

- ◆ Games/Entertainment - games which users choose according to personal liking
- ◆ Lifestyle - which include apps related to food, travel, music, fitness ...
- ◆ Shopping - Shopping apps like Amazon, Flipkart and many more have a field day everyday with absolutely minimum requirement for advertising themselves.
- ◆ eWallets - The shopping apps have paved way to the success of eWallet apps which rule the Indian market more so after the advent of demonetization. Noted eWallet apps are paytm, freecharge, airtel money, JioMoney, Oxigen wallet ...
- ◆ Social media - One of the most used apps. Facebook, Instagram and Twitter are just a few such names.
- ◆ Messaging - Messaging apps are the top trending apps. Whatsapp, Snapchat are likely the most selling apps
- ◆ Navigation & Transport - No place on this globe is a strange place today. Let us thank the navigation apps like Google Maps for this. Navigation apps are the magic used by leading cab services, Uber and Ola included.



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*"If you're not
failing every
now and again,
it's a sign you're
not doing
anything very
innovative" - W.
Allen*

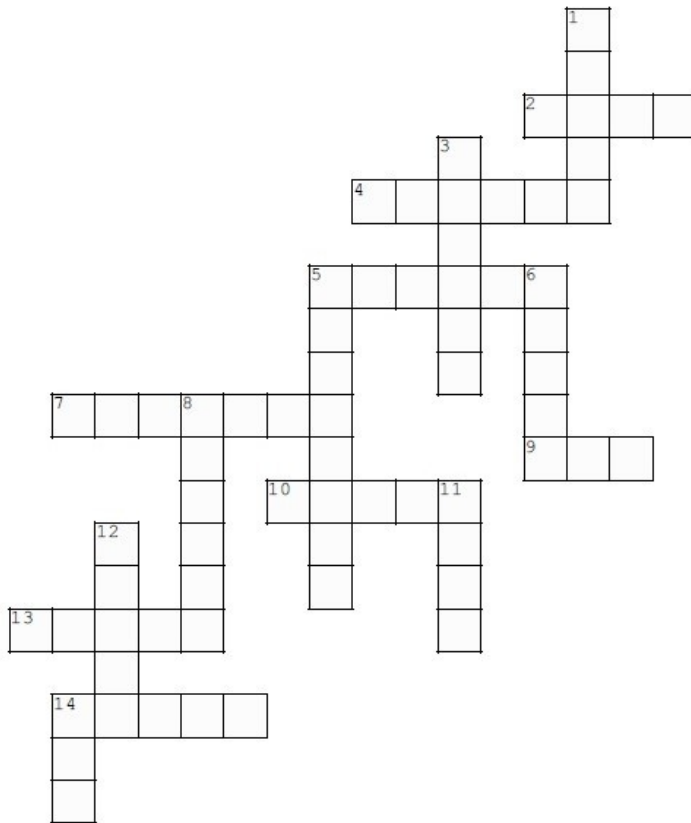
There are many other categories of apps. There is absolutely no category that app developers have overlooked.

Author's note:

This article is to motivate everyone reading it to try and develop their own apps and publish them on play store and app store. Developing a mobile app is easy using free app builder software and requires zero coding knowledge.

Friendly advice to the reader – Electronic gadgets and apps are human creations and should be under the control of a human being. Use them limitedly and please do not get addicted to them. Enjoy some time of your day gadget free.

BRAIN-O-BRAIN



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Across

- 2.** Make contact with someone online
- 4.** provide a way for the website to recognize you and keep track of your preferences.
- 5.** A handheld computer with touchscreen panel
- 7.** Personal details which may include images associated with a username or online account
- 9.** To link a photo or status update to someone's profile in a social media post
- 10.** Becoming popular by circulating on the internet
- 13.** internet store for documents and data
- 14.** To prevent someone from contacting you through the net

Down

- 1.** To move fingers across a touchscreen
- 3.** To subscribe to personal or social update on social media
- 5.** A collection of online posts or updates of a social media account in reverse chronological order of time
- 6.** A very short message on twitter website
- 8.** a contact on social network
- 11.** A user expression when they enjoy or support certain content
- 12.** A person who starts arguments on the internet
- 14.** an error, flaw, failure or fault in a computer program

A WALKTHROUGH TO 5G

5G Technology stands for 5th Generation Mobile technology. This technology has changed the means to use cell phones within very high bandwidth. Users never experienced ever before such a high value technology. Nowadays mobile users have much awareness of the mobile technology.

The fifth generation wireless mobile systems, commonly known as 5G, are expected to provide global roaming across different types of wireless and mobile networks, for instance from satellite to mobile networks and to Wireless Local Area Networks (WLANs). The goal of 5G is to replace the current proliferation of core mobile networks with a single worldwide core network standard, based on IPv6 for control, video, packet data, and voice.

The objective is to offer seamless multimedia services to users accessing an all IP-based infrastructure through heterogeneous access technologies. IPv6 is assumed to act as an adhesive for providing global connectivity and mobility among networks. Most of the wireless companies are looking forward to IPv6, because they will be able to introduce new services. The Japanese government is requiring all of Japan's ISPs to support IPv6 with its first 4G launch. Although the US upgrade to IPv6 is less advanced, WLAN's advancement may provide a shortcut to 4G.

5G technology offer high resolution for crazy cell phone user and bi-directional large bandwidth shaping and high quality services to avoid error. It provides large broadcasting of data in Gigabit which supports almost 65,000 connections. The traffic statistics by 5G technology makes it more accurate. The 5G technology network offers enhanced and available connectivity just about the world.

Currently, 5G is not a term officially used for any particular specification or in any official document yet made public by telecommunication companies or standardization bodies such as 3GPP, WiMAX Forum or ITU-R. The implementation of standards under a 5G umbrella would likely be around the year of 2020. The 5G technologies include all types of advanced features which makes 5G technology most powerful and in huge demand in near future.

MIND READING COMPUTER TECHNOLOGY

Computers that implement a computational model of mind-reading to infer mental states of people from their facial signals. The goal is to enhance human-computer interaction through empathic responses, to improve the productivity of the user and to enable applications to initiate interactions with and on behalf of the user, without waiting for explicit input from that user.

Using a digital video camera, the mind-reading computer system analyzes a person's facial expressions in real time and infers that person's underlying mental state, such as whether he or she is agreeing or disagreeing, interested or bored, thinking or confused.

Prior knowledge of how particular mental states are expressed in the face is combined with analysis of facial expressions and head gestures occurring in real time. The model represents these at different granularities, starting with face and head movements and building those in time and in space to form a clearer model of what mental state is being represented.



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Movement, shape and colour are then analyzed to identify gestures like a smile or eyebrows being raised. Combinations of these occurring over time indicate mental states. For example, a combination of a head nod, with a smile and eyebrows raised might mean interest.

The mental state is recognized by comparing the present real time video with the preinstalled videos which contain different expressions for different mental state (represented by various actions). The other way of detecting the mental state is to be done with the help of futuristic headband which sends Infrared light into head's tissues which absorbed the light, the amount of light which are not absorbed help in detecting the various mental states.

The mind-reading computer system presents information about your mental state as easily as a keyboard and mouse present text and commands. Imagine a future where we are surrounded with mobile phones, cars and online services that can read our minds and react to our moods.

Mind reading computer could help paralyze patients, handicapped people, and people have been in comma, people who cannot speak and it can also be used in military purposes, sting operations and severe investigations (as in the form of lie detector). It can also be combined with consoles and used for mind gaming. This technology is still in nascent stage and takes time for full fledged implementation.

ARTIFICIAL INTELLIGENCE IN HEALTHCARE SECTOR

In a dramatic and stupefying world of computers, filled with nail biting inventions and improvements every moment, every effort is being made to make the everyday complexities a lot facile.

One of the most trending topics in technology is Artificial Intelligence, which is a concept that derives its domain from fields like Psychology, Sociology, Geology, Biology, Medicines, Mathematics to name a few.

Artificial Intelligence has also grown successfully into the healthcare sector owing to the high precision desideratum during surgeries and diagnosis. One such Application is the "doc.ai" App that aims to replace the manual task of report interpretation with the Artificial Intelligence for utmost accuracy.

The invention of prosthetic limbs has always been a blessing to an amputee, however with the mergence of Artificial Intelligence with it, Bionics have seen multifold success. A new bionic developed at the New Castle University in the United Kingdom has the potential to instantly capture the images of the object in front of it, assesses its shape, size and triggers a series of movements in the hand.

Researchers are also training Artificial Intelligence to diagnose Tuberculosis and Chest X-Rays.

The MedyMath Algorithm in Artificial Intelligence uses deep learning, machine vision, patient data and appropriate clinical insights to automatically highlight the areas with potential presence of a cerebral bleed for the doctor to consider.

Artificial Intelligence has become a necessity in the pursue of a comfortable life, because AI is not about building a new mind, its about improving the subsisting tools for solving problems.

"It's fine to celebrate success, but it is more important to head the lessons of failure" - Bill Gates



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360° SELFIE

Who doesn't like clicking pictures and taking selfies, but imagine being able to take it to the next level by revealing everything happening all around you with the first generation of 360-degree cameras. Yes it's true and it's tantalizing. You can think of it as a new kind of selfie.

Inexpensive cameras that make spherical images are opening a new era in photography and changing the way people share stories. These are the 360° cameras. 360° Cameras Can Let You take A 360-Degree Selfie. These cameras are great for making you feel as though you were a part of the action. You can relive these moments using a VR headset, upload them to Facebook or other social networks, or just watch them on your Android phone.

Until recently, there were two main options for shooting photos and video with 360° view:

- Use a rig to position multiple cameras at different angles with overlapping fields of view.

Or

- Pay at least \$10,000 for a special camera

But the introduction of these cameras has changed this entirely.

Today, anyone can buy a decent 360° camera for less than \$500, record a video within minutes, and upload it to Facebook or YouTube. The best user-generated 360° photos and videos—such as the Virtual Forest—deepen the viewer's appreciation of a place or an event. Journalists from the New York Times and are using \$350 Samsung Gear 360cameras to produce spherical photos and videos that document anything from hurricane damage in Haiti to a refugee camp in Gaza.

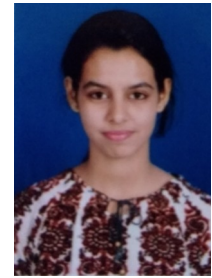
The 360° format is so compelling that it could become a new standard for raw footage of news events. Much of this amateur 360° content is blurry; some of it captures 360 degrees horizontally but not vertically; and most of it is mundane. Most 360° cameras lack displays and viewfinders. To compensate, camera makers developed apps that you can download to your phone to compose shots and review the resulting images. The cameras connect to the apps wirelessly, and many of them allow you to upload photos and video directly from your phone to Facebook and YouTube. In turn, those sites have made it possible over the past year for people not just to post recorded 360° content but to live-stream 360° videos as well. Because creating 360° content requires stitching together multiple images, doing it on the fly for live streaming represents an impressive technical achievement. Computer-vision algorithms have simplified the process so that it can be done on the camera itself, which in turn allows people to live-stream video with minimal delays.

Some of the 360-degree cameras that are making the news are:

- Ricoh
- Samsung
- 360fly
- JK Imaging (maker of Kodak Pixpro digital cameras)
- IC Real Tech (maker of the ALLie camera)
- Humaneyes Technologies

When you see 360° imagery that truly transports you somewhere else, you want it more and more.

So now When you go here, there, and everywhere, snapping selfies along the way, why not add a new element? Kick it up a notch with the 360-degree cameras.



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*"He who is
ashamed of
asking is
ashamed of
learning" -
Danish Proverb*

ARTIFICIAL INTELLIGENCE

Artificial Intelligence is also known as machine intelligence or AI for short. Some computers and robots have been given the opportunity to act with human-like behavior. Face recognition software, complicated scheduling software are all forms of artificial intelligence.

Artificial intelligence is Intelligence displayed by machines, in contrast with the natural intelligence (NI) displayed by humans and other animals. In computer science AI research is defined as the study of “intelligent agents”

In the twenty-first century AI techniques have become an essential part of the technology industry, helping to solve many challenging problems in computer science.

One of the research groups that fall under the general umbrella of AI includes: **Robotics**

"Robot" means any man-made machine that can perform work or other actions normally performed by humans, either automatically or by remote control.

Some robots and computers have been given the ability to learn and to use information from previous activities to make future decisions.

Since the advent of robots, work has been shared between man and machine. But, as robots become more technologically advanced and autonomous, they learn how to do jobs faster and better than humans. Their precision, intelligence and endless energy levels make them the perfect employees for a wide variety of jobs that humans just can't afford to do. In fact here are few things humans couldn't do without robots:

Car Production: Robots are used in the automobile industry to assist in building cars. These high-powered machines have mechanical arms with tools, wheels and sensors that make them ideal for assembly line jobs. Not only do robots save more money in manufacturing costs, but they also perform tough tasks at a pace no human could possibly do.

Space Exploration: One of the most amazing areas of robotics is the use of robots in space. These state-of-the-art machines give astronauts the chance to explore space in the most mind-boggling ways.

Remote and Minimally-Invasive Surgery: Robot-assisted surgery has truly changed the face of medicine by expanding surgeons' capabilities in ways no human could. Surgical robots are directed by human surgeons who use a computer console to move instruments attached to robot arms. The surgeon's movements are translated by a computer and then performed on the patient by the robot. Today's surgical robots are so advanced that it's possible for surgeons to perform remote surgery without physically being in the operating room or even in the same country!

Underwater Exploration: Underwater robots have radically changed the way we see the world from the ocean floor. Underwater robots can dive longer and deeper than any human, and they provide an up-close look at marine life. These amazing machines are equipped with sensors, high-definition cameras, wheels and other technology to assist scientists when they explore docks, ocean floors, dams, ship bellies and other surfaces.



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***“Move fast and
break things,
Unless you are
breaking stuff,
you are not
moving fast
enough” - Mark
Zuckerberg***

Investigating Hazardous Environments: Robots have become increasingly important for investigating and researching hazardous and dangerous environments. These robots are capable of entering an active volcano to collect data or a burning building to search for victims.

Commercialized Agriculture: Farming has been performed by man since the beginning of time. Like manufacturing jobs; robots have the ability to work faster, longer and more efficiently than humans in agriculture. Robots remove the human factor from this labor intensive and difficult work. They can be taught to navigate through farmland and harvest crops on their own.



DRONE TECHNOLOGY - PILOTLESS FLYING MACHINES

Unmanned aerial vehicles were used during World War II. These radio-controlled aircraft were called RPVs, or "remotely piloted vehicles," but their military creators and users soon gave up the acronym for something a little more ordinary.

There were two meanings for drone : a "male bee," or a "monotonous, sustained sound". The word "drone" was first used of an unmanned aerial vehicle in 1946.

A **Drone** is an unmanned aircraft also known as **unmanned aerial vehicles** (UAVs) or unmanned aircraft systems (UASes). An UAV, also known as drone is an aircraft that is operated by a pilot on ground. Essentially, a drone is a flying robot. It can be used for military, commercial purposes and personal entertainment. The aircrafts can be remotely controlled or can fly autonomously through software-controlled flight plan or strategy in their embedded systems working with onboard sensors and GPS. Drones may have an onboard computer to take care of adjustments to wind and changes in air pressure.

The first drones were for military, where they were used initially for anti-aircraft target practice, intelligence gathering and as weapons platforms. Drones are used in a weather and traffic monitoring, surveillance and firefighting to personal drones and business drone-based photography, videography for search and rescue , and delivery services.

The integration of drones and internet of things technology has created numerous enterprise use cases. Drones working with on-ground IoT sensors which can help agricultural industries to monitor land and crops, power & energy industries survey power lines and operational equipment and insurance companies monitor properties for claims and policies.



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BRAIN—O—BRAIN SOLUTION

Across	
2. Make contact with someone online	Ping
4. Provide a way for the website to recognize you and keep track of your preferences	Cookie
5. A handheld computer with touchscreen panel	Tablet
7. Personal details which may include images associated with a username or online account	Profile
9.To link a photo or status update to someone's profile in a social media post	Tag
10. Becoming popular by circulating on the internet	Viral
13. Internet store for documents and data	cloud
14. To prevent someone from contacting you through the net	Block

Down	
1. To move fingers across a touchscreen	Swipe
3. To subscribe to personal or social update on social media	Follow
5. A collection of online posts or updates of a social media account in reverse chronological order of time	Timeline
6. A very short message on twitter website	Tweet
8. A contact on social network	Friend
11. A user expression when they enjoy or support certain content	like
12. A person who starts arguments on the internet	Troll
14. An error, flaw, failure or fault in a computer program	Bug

ETHICAL HACKING

Ethical hacking refers to the act of locating weaknesses and vulnerabilities of computer and information systems by duplicating the intent and actions of malicious hackers.

An ethical hacker operates with the knowledge and permission of the organization for which they are trying to defend. In some cases, the organization will neglect to inform their information security team of the activities that will be carried out by an ethical hacker in an attempt to test the effectiveness of the information security team. This is referred to as a double-blind environment. In order to operate effectively and legally, an ethical hacker must be informed of the assets that should be protected, potential threat sources, and the extent to which the organization will support an ethical hacker's efforts.



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PROCESS

Ethical hacking too has a set of distinct phases. It helps hackers to make a structured ethical hacking attack. Different security training manuals explain the process of ethical hacking in different ways. The entire process can be categorized into the following six phases.

Reconnaissance

Reconnaissance is the phase where the attacker gathers information about a target using active or passive means. The tools that are widely used in this process are NMAP, Hping, Maltego, and Google Dorks.

Scanning

In this process, the attacker begins to actively probe a target machine or network for vulnerabilities that can be exploited. The tools used in this process are Nessus, Nexpose, and NMAP.

Gaining Access

In this process, the vulnerability is located and you attempt to exploit it in order to enter into the system. The primary tool that is used in this process is Metasploit.

Maintaining Access

It is the process where the hacker has already gained access into a system. After gaining access, the hacker installs some backdoors in order to enter into the system when he needs access in this owned system in future. Metasploit is the preferred tool in this process.

Clearing Tracks

This process is actually an unethical activity. It has to do with the deletion of logs of all the activities that take place during the hacking process.

*"By viewing the
old we learn the
new" - Chinese
Proverb*

Future of ethical hacking

With companies having so much data, it has to be protected i.e. from disgruntled workers or criminal hackers. There will be a huge demand of white hackers in future as the now generation is getting all the work done online. It's the 21st century and ethical hacking seems a great profession to direct your career towards. There are a variety of certifications to become an ethical hacker including Certified Ethical hacker(CEH), Certified expert penetration tester(CEPT) and the list goes on. Hacking seems something challenging for this generation.

COMPUTER SCIENCE AT SFC IS A BOON

SFC is a place where students can learn and explore their favorite subject. The college provides many courses related to Computer science apart from the core subjects. Students who did not even know what a computer is will graduate as software engineer on completion of course at SFC. There are many certificate courses, internships and workshops provided for the students to have a real time experience of working with projects. Any student who wishes to build their career in IT should graduate from a college like SFC. It is the best platform for students.

A student can be successful only if he/she gets the right teacher to guide them in designing their future. Lectures play a vital role in enhancement and development of students. They not only teach the subject but also helps students to lead a better life. Lectures are the standing pillars who bridge the knowledge gap by constantly assessing a student's performance and helping for betterment and inspire students to reach great heights. They take real interest to make the learning easy for the students. They also take care about a student's personal growth along with academics.

The department of computer science has introduced BSc. Honors (software engineering) Under graduation course in the year 2012. This course covers all the subjects of computer science along with Maths and Statistics for four semesters. The course is structured as starting with the basics of computer in first semester to Developing a web technology project in the last semester. It is the best of all computers science courses. CCNA is an add on course introducing students to networking. The college also provides "MSc.computer science" to explore and learn more about the subject. On successful completion of course students will have sufficient knowledge required.

Encouragement and proper guidance are the two important things any student requires to build their career. Active enhanced learning and healthy environment makes SFC a unique place.

In today's world of evolving technologies, IT plays a very vital role. SFC brings out the future software engineers required for the IT world today.

MEET MY AUTOMATED ONE, WHO IS LIKE NO ONE

Computer science, the word is enough to speak volumes. I wonder what would have happened if Sir Isaac Newton was sitting under the tree and pressed a button, the apple fell down, he would probably speak about sensors then. When Shakespeare wrote Romeo and Juliet, I wonder what would have happened if two figures appeared automatically with some background music. Life would be so funny then! Good that computer science was born later on, if not we wouldn't witness the birth of Facebook and amazon!



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I was a kid from a generation who was dealing with cassettes, listening to a lot of radio and watched the idiot box (literally a box). Playing meant to go out in the open and just run around like mad monkeys. I remember the time when my dad first brought in something which had two devices which were like boxes and a wide plank which had letters on it and there was another little device which bothered me because it wasn't a mouse but it was still called a mouse. My mom did the ritual of the teeka and we switched on the system. Damn! It was so fascinating back then that I was just running around the house seeing the windows home screen as if I won a war. My dad showed me the monitor, the CPU, the keyboard and the mouse and explained me how to operate. I thought I would never get this but after a few days, I understood that the button on the CPU is used to switch on/off the system, monitor has a screen, Keyboard is to type and mouse is to move. Years passed by, I have grown from a kid to a girl when something called as the internet hit us deep. It was in school that I first made my email id and started sending mails, as I have told you I was a kid from a generation with postman and letters, email made me feel fascinated again. Now, being a big grown up girl who is doing her masters in computer science never thought that those two devices with a plank and a mouse which my dad brought back then would actually make my life. I have seen the evolution of computers from having a CPU, a monitor keyboard and a mouse to a single piece called the laptop. A kid who ever wondered why mouse isn't a mouse really, why CPU has to be on/ off is now writing algorithms and playing with programs.

The world has definitely changed and it will for the years to come by. Internet is taking big steps and computer science is paving a way. Let's just see how beautifully computer science has been designed , you want to eat a pizza, I know you wouldn't go to the kitchen and bake it, you open an app, order it, 30 minutes straight, pizza is at your place. Okay! The favorite, you want to shop but you don't want to leave your home, don't crib or cry because we can always SHOP ONLINE! You need not send a raven or wait for a postman, gone are those days where letters were written, postman would deliver, now we are in a phase where postman too would send emails. We are in a time where rockets are sent to mars, Robots are on the rise, anybody can talk to anyone in disguise. Women are given apps for safety, transactions are made bravely. Fraud and cheats were always there, why do you think we have antivirus software? Your health will be taken care by apps which can never hear or stare. Your disease will be cured even though computer science isn't a doctor it will still do its share.

Computer science has its own boon and bane, how you take it is all in your hands my mate!

Lastly and Honestly, Thank You computer science for leaving your spark in all the fields and throwing light on areas which were in a tunnel, you made our living better and fun, there's no one like you my automated one.

*"Teachers open
the door, but you
must enter by
yourself." -
Chinese Proverb*

CRYPTANALYSIS

Cryptanalysis is co-study of cryptography. A cipher is said to be successful cipher if its design resists all cipher attacks. Cryptanalysis are two-fold. One way is a benign activity where cryptanalysis is performed to check the performance of the cipher under various conditions. The second one, attacker uses cryptanalysis to exploit the vulnerabilities of the cipher for their own benefit.

Cryptanalysis is a technique where it helps in breaking the cipher. Cryptanalysis helps to read the message, or important information in advance. A good cipher is that which withstands various attacks. In order to justify that the cipher produced is a good cipher, the developer or the tester also performs the cryptanalysis. The attacker performs the cryptanalysis to take advantage of the vulnerable points or weak points so that breaking of the cipher becomes to be easy.

Some of the features of Good Cipher are:

Stability of the Cipher: Stability of the cipher can be measured by mathematical analysis, analysis of the cipher, the various methods which target the weakness of the cryptosystem.

Cost of the Cipher: The cost of breaking the cipher depends on the resources that are required to break the cipher. The resource can be memory, data, time, number of computations required.

Requirements of Cryptanalysis:

Exploit Vulnerability: The main theme of the cryptanalysis is to exploit the vulnerabilities of the system.

Cost of the Cryptanalysis: The design of the cipher is such that the cost of the memory or the time that which is spent for breaking the cipher is more. If the time or memory spent for breaking the cipher is high than it can be said that the attack is unsuccessful attack. The attacker has to analyze these components before breaking the cipher.



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AN INSIGHT ON DARK WEB AND DEEP WEB

The internet is a largest place or a collection of user friendly websites. There is a minute spot on the internet called the Dark Web and Deep Web.

The internet can be majorly divided into three different layers: the surface web, the deep web and the dark web. The first layer which is the surface web is a collection of web pages that are accessible by the search engines like Google.

The next layer - Deep web is a hidden **web**, or an invisible **web** where contents of these sites are not indexed by standard search engines. The deep web includes sites pertaining to academic databases which can be accessed by a normal browser and are not accessible by search engines. Hence a deep web is simply a content of databases and other web services not indexed by usual search engines for a specific reason.

The **Dark Web** then is classified as a small portion of the **Deep Web** that has been intentionally hidden and is inaccessible through standard **web** browsers. The Dark Web are the web pages or a collection of websites that can't be accessed by search engines as they exist on an encrypted network and are therefore hidden from traditional search engines.

There are many browsers like Tor, Freenet and I2P that helps in accessing the dark web. Amongst these, the most popular is the Tor browser which was originally called the Onion router as it uses a technique called onion routing. It is a technique that makes websites anonymous through the layers of encryption. Tor uses Tor Hidden service protocol to provide secrecy and anonymity to its users by hiding the user's identity and activity. All the sites on the dark web hide their identity using Tor encryption tool.

The most commonly hosted type of content on Tor was child pornography, followed by black markets. Thus, sites on the Dark Web can be visited by anyone, but it is very difficult to work out who is behind the sites. And it can be dangerous if you slip up and your identity is discovered.

IT INVENTORS AND IT TERMS

IT Inventors :

1. Arabhatt was ancient India's greatest mathematician and expert in Astronomy. He introduced the concept of Zero (0) without which the computer technology would be non-existent.
2. Charle Babbage: Father of Computers



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3. Sir Christopher Latham Shaler: Inventor of keyboard layout
4. Sir John Mauchly and Sir JP Eckert invented ENIAC – the first general purpose Electronic digital computer
5. Dr. Robert H. Dennard: Created DRAM in 1966
6. Dr. Engelbart Inventor of mouse
7. Basic was developed by Sir John Kemeny
8. Tim Berners Lee: Founder of world wide web
9. Jerry Yand and David Filo are the founders of www.yahoo.com
10. Larry Page and Sergey Brin are the founders of Google
11. James T. Russell invented digital compact disk (CD)



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IT Terms :

1. Google Docs – Free Web based application in which documents and spread sheets can be created, edited and stored online
2. Team Viewer – Proprietary computer software package for remote control, desktop sharing, online meetings, web conferencing and file transfer between computers.
3. Android OS – It is LINUX based OS designed primarily for touch screen mobile devices such as smart phones and Tablet computers.
4. Sky Drive – Free online storage facility offered by Microsoft
5. Cloud computing – Technology that uses internet based computing where different services such as server's, storage and applications are delivered to an organization's computers and devices through internet
6. Whatsapp – Messenger is a cross platform mobile messaging application which allows you to exchange unlimited images, video and audio media messages free of cost
7. Hibernation – It is a state in which the computer shuts down to save power but first it saves everything in memory on a hard disc
8. Moodle (modular – object – oriented dynamic learning environment) It is a free source of e-learning software platform that educators can use to create effective online learning course
9. Authentication – Access control mechanism which is essential in securing data
10. Encryption – Process of transforming data into an unreadable code which is transferred over the network
11. Recuva – Freeware data recovery program, which runs under Microsoft windows 7, Vista, XP, 2003, 2000 and 1998
12. Photo Rec – A program used to recover files